

REMARKS

Claims 1-10, 16 and 17 are pending in the application. Claims 11-15 were previously canceled.

Claim 1 is amended to recite two preferred composite metal hydroxides of $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$ or $\text{MgO} \cdot \text{NiO} \cdot \text{H}_2\text{O}$.

Entry of the Amendment along with reconsideration and review of the claims on the merits are respectfully requested.

Summary of Examiner's Interview

Applicants appreciate the Examiner's time and consideration during a telephonic Examiner's Interview conducted telephonically on March 30, 2006.

Applicants' representative contacted the Examiner regarding a proposed amendment to Claim 1 directed to two preferred composite metal hydroxides of $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$ or $\text{MgO} \cdot \text{NiO} \cdot \text{H}_2\text{O}$ as the flame retardant. The Examiner indicated that the two preferred composite metal hydroxides would overcome the outstanding obviousness rejection based on the combination of WO'573 with Nakae et al. However, the Examiner indicated that he would require further search of at least the $\text{MgO} \cdot \text{NiO} \cdot \text{H}_2\text{O}$ species, as this species was not previously recited in any of the claims.

Thus, Applicants file concurrently herewith an Request for Continued Examination (RCE) along with this Amendment under 37 C.F.R. §1.114(c). The Amendment to Claim 1

recites the two preferred composite metal hydroxides of $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$ or $\text{MgO} \cdot \text{NiO} \cdot \text{H}_2\text{O}$, as discussed, and deletes formula (1) from Claim 1 (see Listing of Claims).

Response to Claim Rejections - 35 U.S.C. § 103

A. Claims 1, 3-10 and 17 are rejected under 35 U.S.C. §103(a) as assertedly being unpatentable over WO 99/47573 in view of Nakae et al. (U.S. 4,353,817), for the reasons of record.

The Examiner asserts that Nakae discloses that the hydrated metal oxide has a general structural formula $\text{M}_m\text{O}_n \cdot \text{XH}_2\text{O}$, or a double salt containing compound, such as magnesium hydroxide ($\text{MgO} \cdot \text{H}_2\text{O}$ or $\text{Mg}(\text{OH})_2$), zirconium hydroxide ($\text{ZrO} \cdot n\text{H}_2\text{O}$), borax ($\text{Na}_2\text{O} \cdot \text{B}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$), etc. In particular, the Examiner asserts that Nakae's double salt containing compound reads on Applicants' composite metal hydroxide.

B.¹ Claim 2 is rejected under 35 U.S.C. §103(a) as assertedly being unpatentable over WO 99/47573 (WO '573) in view of Nakae et al., and further in view of Applicants' admitted prior art JP-A-322168, for the reasons of record.

C.² Claim 16 is rejected under 35 U.S.C. §103(a) as assertedly being unpatentable over

^{1, 2} The Final Office Action does not include the rejection of Claims 2 and 16. However, we called the Examiner on November 2, 2005, and requested clarification. The Examiner returned our call on November 3, 2005, and left a message that although after checking he recognizes that the Detailed Action fails to specifically recite the rejections of Claims 2 and 16, that the rejections of Claims 2 and 16 from the previous Office Action are maintained.

WO 99/47573 (WO '573) either individually, or in view of admitted prior art, and further in view of Nakae et al., for the reasons of record.

Applicants respond as follows.

As previously noted, Claim 1 is amended to recite two preferred composite metal hydroxides of $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$ or $\text{MgO} \cdot \text{NiO} \cdot \text{H}_2\text{O}$. Applicants recite two preferred composite metal hydroxides of $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$ and $\text{MgO} \cdot \text{NiO} \cdot \text{H}_2\text{O}$, as expressed in the Rule 132 Declaration in Experiments 4 and 7-9 (see also page 16, second and third paragraphs). No new matter is added. Entry of the amendment is respectfully requested.

Applicants submit that Nakae's "double salt containing compounds" fail to satisfy the claimed composite metal hydroxides of $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$ or $\text{MgO} \cdot \text{NiO} \cdot \text{H}_2\text{O}$.

Applicants submit that Nakae's exemplary hydrated metal oxide compounds at column 7, lines 21-37 do not disclose or suggest the composite metal hydroxides of $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$ or $\text{MgO} \cdot \text{NiO} \cdot \text{H}_2\text{O}$, or teach the unexpectedly high degree of expansion in combination with acceptable flame retardancy property.

Applicants submit that even though Nakae discloses, for example, magnesium hydroxide, Nakae fails to specifically teach the zinc hydroxide or the nickel hydroxide of all the possibilities for hydrated metal oxides which would be necessary to combine with the magnesium hydroxide to form the specific composite metal hydroxides.

Thus, the presently claimed invention is distinguished over the combined teachings of WO '573 and Nakae.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the obviousness rejections.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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CUSTOMER NUMBER



John K. Shin
Registration No. 48,409

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